

REMARKS

Claims 1-2, 4-9, 12-13, 15-19, 26, 34-36, 39, and 43-44 are presently pending. Claims 1 and 7 have been amended. Claims 6-7 and 17 have been cancelled. Claims 77-131 have been added. Thus, claims 1-2, 4-5, 8-9, 12-13, 15-16, 18-19, 26, 34-36, 39, 43-44 and 77-131 remain pending in the present application.

Claim Rejections – 35 U.S.C. 112, Second Paragraph

In view of the amendment to claim 7 and the cancellation of claim 17, withdrawal of the rejection of the claims under 35 U.S.C. § 112, second paragraph is respectfully requested.

Claim Rejections – 35 U.S.C. 103(a)

The references applied by the Examiner do not disclose, describe, or suggest the claimed multi-layer barrier either alone or in combination. The present claims are based on the discovery of a multi-layer barrier that substantially prevents pesticide release from the barrier but that nevertheless prevents wood pests from breaching the barrier. The claimed multi-layer barrier is effective in preventing wood pests from breaching the barrier with minimal impact on the environment. The multi-layer barrier comprises at least one continuous pesticide-releasing layer and at least one pesticide-retaining layer. The continuous pesticide-releasing layer contains at least one pesticide bound within a polymeric matrix. The pesticide-retaining layer releases only minute amounts of the pesticide such that substantially no pesticide is released from the barrier. By allowing the pesticide to release at this extremely low rate, the claimed multi-layer barrier remains effective in preventing wood pests from breaching the barrier for a prolonged period of time measured in years.

§ 103(a) Rejection over Crook

Applicants respectfully submit that present claims 1, 4-5, 9, 12-13, 16, and 18 are patentable over Crook (U.S. Patent No. 6,224,957). Applicants respectfully submit that Crook discloses non-analogous art and cannot be used to reject the present invention under § 103(a). Applicants also respectfully submit that it would not have been obvious to modify Crook as the Examiner has suggested.

Crook is clearly a non-analogous reference and, thus, is irrelevant in determining obviousness. Two criteria exist for determining whether a prior art reference is analogous. First,

if the prior art reference is from the same field of endeavor as the claimed invention, then it is analogous art. *In re Clay*, 966 F.2d 656, 23 U.S.P.Q. 1058 (Fed. Cir. 1992). Second, if the prior art reference is not from the same field of endeavor as the claimed invention but the prior reference is reasonably pertinent to the problem with which the invention is involved, then the reference is again analogous. *Id.* A prior art reference and the claimed invention are within the same field of endeavor if they have essentially the same function and structure. *In re Deminski*, 796 F.2d 436, 230 U.S.P.Q. 313 (Fed. Cir. 1986).

Here, a multi-layer barrier for protection against wood pests is not within the same field of endeavor as an anti-corrosive material for protecting buried conduits from corrosion. See Crook, col. 2, ll. 12-56. Crook does not involve a multi-layer barrier to protect wooden structures against wood boring pests in a soil environment. Rather, Crook is directed towards protecting a conduit from degradation or corrosion by oxygenation and microbial attack. See Crook, col. 1, ll. 38-41. Put simply, the function of a protective material for preventing microbiologically-influenced corrosion in buried conduits is not the same as that of a multi-layer barrier preventing wood pest access to wooden structures. Consequently, Crook is not within the same field of endeavor as the claimed invention.

Furthermore, Crook is not analogous under the second criteria set forth in *In re Clay* because the problems addressed in this reference are not reasonably pertinent to the problems which the present invention addresses. The present invention is concerned with the long-term prevention of access by pests (*i.e.*, termites and boring insects) to protected areas and/or structures, such as homes, buildings, and wooden structures. The Crook invention has nothing to do with wooden structures and, in particular, nothing to do with the long-term protection of wooden structures from wood boring pests by slow release of pesticide from a multi-layer barrier. Rather, Crook is concerned with preventing microbiologically-influenced corrosion in buried conduits. Crook solves this problem by using an anti-corrosive material comprising a polyethelene sleeve having a bactericide impregnated therein so that the bactericide can migrate within the polymeric matrix and contact the conduit surface. Because the subject matter and the problems addressed in Crook compel the conclusion that Crook is not “reasonably pertinent” to the problems addressed by the present invention, Crook is not analogous art under the second criteria of *In re Clay*. Therefore, claims 1, 4-5, 9, 12-13, 16, and 18 are patentable over Crook because Crook is a non-analogous reference.

Applicants also respectfully submit that presently pending independent claim 1 and dependent claims 4-5, 9, 12-13, 16, and 18 are patentable in view of Crook, as Crook fails to disclose a multi-layer barrier for protecting wooden structures against wood-boring pests. Crook discloses a protective material for preventing microbiologically-influenced corrosion in buried conduits. Crook, cols. 1-2. The Crook protective material solves corrosion problems associated with “buried conduits comprised of concrete, concrete with metal reinforcements, or metal.” *Id.*, col. 1, ll. 24-26. The goal of the Crook apparatus is to protect against corrosion such as with metal objects. Nowhere does Crook disclose a multi-layer barrier, one layer of which contains a *wood-boring pesticidally effective amount* of pesticide. Thus, withdrawal of the rejection based on Crook is respectfully requested.

§ 103(a) Rejection over Von Kohorn in view of Martinet, Dohrer, and Van Voris

Applicants also submit that present claims 1-2, 4-9, 12-13, 15-18, 34-39, and 43-44 are patentable over Von Kohorn (U.S. Patent No. 4,639,393) in view of Martinet (AU 13886/95), Dohrer (U.S. Patent No. 4,680,328), and Van Voris (U.S. Patent No. 5,801,194). Von Kohorn is directed to a dispenser including a layer (element 13) formed from a polymeric composition, that provides for the controlled release of a combination of pest control and pest attractant substances. Von Kohorn, col. 1, ll. 20-21; col. 5, l. 42 – col. 6, l. 10. Layer 13 is bonded to wall elements 11 and 15. *Id.*, col. 5, l. 42 – col. 6, l. 10. The active pest control and pest attractant agent(s) can migrate from layer 13 into wall elements 11 or 15 and onto the surfaces of the dispenser (elements 12 and 17). *Id.* Wall element 15 may also act to control migration of the active pest control and pest attractant agent(s) onto the wall surface. There is no disclosure in Von Kohorn of a pesticide bound within a polymer matrix as required by the present invention. Von Kohorn also differs in that it does not disclose the claimed pesticide-retaining layer – a layer which releases only minute amounts of pesticide such that substantially no pesticide is released from the barrier. Moreover, the present invention does not disclose the release of a volatile pest attractant substance as required by Von Kohorn.

Martinet is directed to methods of protecting buildings against termites, which are put into effect during the construction of buildings. Martinet discloses “the application of a plastic film impregnated with an anti-termite agent around the sides and base of an excavation site.” Martinet, abstract. Nowhere in Martinet is there disclosed a multi-layer barrier with a *continuous* pesticide-releasing layer having pesticide bound within a polymeric matrix.

Similarly, Martinet does not disclose the concept that substantially no pesticide is released from a pesticide-retaining layer at a sufficient rate to prevent a wood pest from breaching the barrier as presently claimed, but instead discloses a “gradual release of small doses” of pesticide to create a “repellent effect” and a “contact and shock” effect. Martinet, p. 7, ll. 31-36.

Dohrer discloses an insecticide-containing polyethylene composition with an improved ability to accept higher concentrations of insecticide and that can be formed into useful articles that are resistant to insect attack. Dohrer, col. 2, ll. 22-31. It is directed towards use in wire or cable applications, not wooden structures. *See id.*, col. 1, l. 43 – col. 2, l. 17. Moreover, Dohrer does not disclose a multi-layered structure, let alone a *continuous* pesticide-releasing layer comprising a polymeric matrix and a pesticide-retaining layer releasing substantially no pesticide, as in the present invention. Rather, Dohrer is directed only to a polymeric composition containing insecticide, which permits insecticide retention. *Id.*, col. 2, ll. 21-22.

Van Voris is directed to a delivery system and method for the controlled release of insecticide utilizing a controlled release device comprising a polymer. Van Voris, col. 3, ll. 3-12. Although, Van Voris discloses a polymeric matrix, the physical melt-bonded mixture of polymer and insecticide are placed on the spun-bonded polymeric sheeting in spots or stripes. *Id.*, col. 6, ll. 6-23; *id.*, col. 6, ll. 35-47. Therefore, Von Voris does not disclose the *continuous* pesticide-retaining layer of the present invention.

Applicants respectfully submit that claims 1-2, 4-9, 12-13, 15-18, 34-39, and 43-44 are not obvious over Von Kohorn in view of Martinet, Dohrer, and Van Voris because a *prima facie* case of obviousness has not been made. The Von Kohorn-Martinet-Dohrer-Van Voris combination fails due to a lack of motivation, suggestion, or incentive to combine these four references. In order to establish a *prima facie* case of obviousness, there must be some suggestion in the references or in the knowledge generally available to one of ordinary skill in the art for making the combination. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). “There must be a teaching or suggestion within the prior art, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources of information, to select particular elements, and to combine them in the way they were combined by the inventor.” *ATD Corp. v. Lydall, Inc.*, 48 U.S.P.Q.2d 1321, 1329 (Fed. Cir. 1998). There is no suggestion, teaching, or motivation in Von Kohorn, Martinet, Dohrer, or Van Voris to make the proposed combination. *See In re Fine*, 837 F.2d at 1074, 5 U.S.P.Q.2d at 1599. One skilled in the art would not look to combine Von Kohorn with Dohrer (directed to

use in wire and cable operations), Martinet (directed to use in building and construction), and Van Voris (directed to use in wooden structures).

In addition, Applicants submit that it would not have been obvious to modify the Von Kohorn ‘attract and kill’ device as proposed by the Examiner because such a modification would affect the principle of operation of the Von Kohorn reference. For example, modifying Von Kohorn’s layered structure to incorporate Van Voris’s insect barrier which *deters* insects from entering wooden objects (Van Voris, col. 1, ll. 21-22) would change the basic principle under which the Von Kohorn structure was designed to operate, *i.e.*, *attracting* pests to the article in order to destroy them. M.P.E.P. § 2143.01; *In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A. 1959) (reversing rejection and holding “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.”). Such a modification is impermissible. *Id.*

Further, neither Von Kohorn, Martinet, Dohrer, Von Voris nor the combination thereof discloses a multi-layer barrier including a *continuous* pesticide-releasing layer comprising a polymer matrix with a wood-boring pesticidally effective amount of pesticide bound within the polymer matrix and a pesticide-retaining layer such that the pesticide is substantially not released from the barrier but is released at a sufficient rate to prevent the wood pest from breaching the barrier. Thus, even if the references are combined as suggested by the Examiner (which Applicants submit is improper), every element of the present invention is not disclosed, and the claims are, therefore, not obvious in view of these references.

For the foregoing reasons, present independent claim 1 is not obvious over Von Kohorn, Martinet, Dohrer, Van Voris, or the combination thereof and should be in a condition for allowance. The remaining claims (*i.e.*, claims 2, 4-9, 12-13, 15-18, 34-39, and 43-44), which depend either directly or indirectly from the listed independent claim 1, should also be allowable for at least the same reasons.

§ 103(a) Rejection over Cataldo in view of Burris

Applicants also submit that present claims 1, 4-9, 15-18, 34-39, and 43 are patentable over Cataldo (U.S. Patent No. 5,856,271) in view of Burris (U.S. Patent No. 2,899,771). Cataldo is directed to a method of making controlled release devices having fewer bubbles and voids. Cataldo, col. 2, ll. 6-7. One method involves combining “an active chemical with a dried

carrier into a bound friable mixture followed by combining the bound friable mixture with a polymer preform making a formable mixture prior to forming” a controlled release device. *Id.*, col. 2, ll. 7-12. Another method involves “heating and mixing an amine curable elastomer prepolymer . . . with an active chemical into a first solution, heating and mixing an amine . . . with a soft segment cross-linker into a second solution, and mixing the two solutions” to form a controlled release device. Col. 2, ll. 39-44. The approach in Cataldo differs from that of the present invention. Cataldo is directed to methods of making controlled release devices having fewer flaws in the thermoset and thermoplastic materials. The claimed invention is directed to a multi-layer barrier with a continuous pesticide-releasing layer having a polymeric matrix with a pesticide bound within the polymer matrix and a pesticide-retaining layer such that the pesticide is substantially not released from the barrier but is released at a sufficient rate to prevent a wood pest from breaching the barrier. Cataldo does not even disclose a multi-layered barrier, let alone a multi-layer barrier with a continuous pesticide-releasing layer having a polymer matrix with a pesticide bound within the polymer matrix and a pesticide-retaining layer such that the pesticide is substantially not released from the barrier but is released at a sufficient rate to prevent a wood pest from breaching the barrier as claimed in the present application. .

Burris discloses an insect resistant *vapor* barrier carrying a water emulsifiable insecticide. Burris, col. 1, ll. 15-16. Contact with moisture releases the insecticide into the soil. Burris, col. 1, ll. 22-27. Burris does not disclose the multi-layer structure of the present invention, nor does it disclose a pesticide-retaining layer where the pesticide is substantially not released from the barrier.

Applicants respectfully submit that a *prima facie* case of obviousness has not been made because there is no motivation, suggestion, or teaching to combine the Cataldo and Burris references. *See In re Fine*, 837 F.2d at 1074, 5 U.S.P.Q.2d at 1599. Moreover, Applicants submit that it would not have been obvious to one of ordinary skill in the art to modify the method of making a controlled release device of Cataldo to incorporate the insect resistant vapor barrier of Burris.

Furthermore, even if a motivation, suggestion, or teaching to combine the references is found (which Applicants submit is lacking), the combination nonetheless fails to disclose the presently claimed invention. Neither Cataldo, Burris, nor the combination thereof discloses a multi-layer barrier with a *continuous* pesticide-releasing layer comprising pesticide bound within a polymeric matrix and a pesticide-retaining layer that releases only minute amounts of pesticide

at a sufficient rate to prevent a wood pest from breaching the barrier as presently claimed. Withdrawal of the rejection based on Cataldo in view of Burris is, therefore, respectfully requested.

Claim Rejections – 35 U.S.C. § 102(e)

Assuming arguendo that Van Voris (U.S. Patent No. 6,099,850, “Van Voris ‘850”) and Van Voris (U.S. Patent No. 6,319,511, “Van Voris ‘511”) have been properly applied as references under 35 U.S.C. § 102(e), Applicants respectfully submit that claims 1, 4-9, 12-13, 15-18, 34-39, 43-44 are patentable over Van Voris ‘850 and/or Van Voris ‘511. Both references disclose a method and device which prevent the intrusion of insects into wood structures by using a controlled release device capable of releasing insecticide. Van Voris ‘850 abstract; Van Voris ‘511 abstract. In both references, the mixture of polymer and insecticide is placed on spun-bonded polymeric sheeting in spots or stripes. Van Voris ‘850, col. 5, ll 48-59, col. 5, l. 53 – col. 6, l. 3; Van Voris ‘850, col. 6, ll. 7-24, 14-26. However, neither discloses the *continuous* pesticide-releasing layer of the presently claimed invention. Accordingly, withdrawal of the rejection based on Van Voris ‘850 and/or Van Voris ‘511 is respectfully requested.

Submitted herewith is a supplemental information disclosure statement. Applicants respectfully request that this information disclosure statement be entered and the references listed on the attached Form PTO-1449 be considered by the Examiner and made of record.

It is the Applicants’ belief that all of the claims are now in condition for allowance and action towards that effect is respectfully requested. The Applicants respectfully request that a timely Notice of Allowance be issued in this case. If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at the number indicated.

A check in the amount of \$450.00 is enclosed, which covers the fee for the petition for extension of time; however, should said check be missing or in an incorrect amount, the Commissioner is authorized to charge additional fees (except for payment of the issue fee) to Jenkens & Gilchrist, P.C. Deposit Account No. 10-0447, Order No. 47309-00031USP1.

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Respectfully submitted,

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